

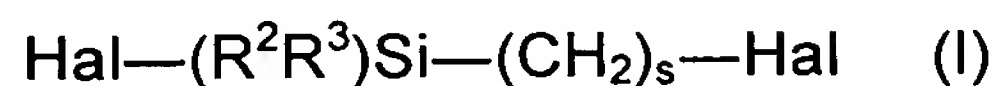
**AMENDMENTS TO THE CLAIMS:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

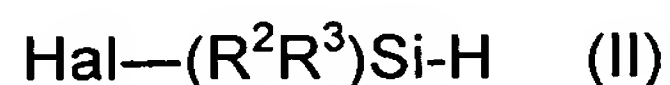
1-12. (Canceled)

13. (New) A method for the preparation of a haloalkyldialkylhalosilane of formula (I):

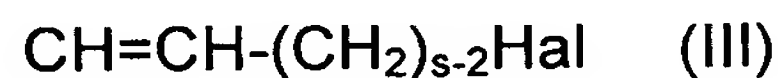


by hydrosilylation reaction of a reaction medium comprising:

a silane of formula (II):



and an alkenyl halide of formula (III):



in the presence of a catalytically effective amount of a hydrosilylation catalyst based on iridium in the oxidation state I or III,

in which formulae (I), (II), (III):

the symbol Hal represents a halogen atom selected from the group consisting of chlorine, bromine and iodine atoms,

the symbols  $R^2$  et  $R^3$ , which may be identical or different, are each a monovalent hydrocarbon radical selected from the group consisting of a linear or branched alkyl radical having from 1 to 6 carbon atoms and a phenyl radical, and

s is an integer ranging from 2 to 10 inclusive, and wherein

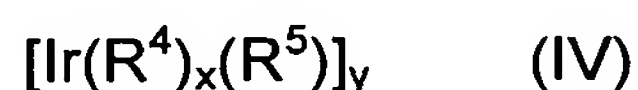
said method at least one auxiliary in the free or supported state selected from the group of compounds consisting of:

- (i) ketones,
- (ii) ethers,
- (iii) quinones,
- (iv) anhydrides,
- (v) unsaturated hydrocarbon compounds (UHC) whether aromatic and/or comprising at least one C=C double bond and/or at least one C≡C triple bond, it being possible for these unsaturated bonds to be conjugated or nonconjugated, the said UHCs being linear or cyclic (mono- or polycyclic), having from 4 to 30 carbon atoms, having from 1 to 8 ethylenic and/or acetylenic sites of unsaturation and optionally comprising one or more heteroatoms, and
- (vi) mixtures thereof,

is added to the reaction medium, with the proviso that, when the auxiliary comprises one or more UHCs as defined above, then this (these) UHC(s) is (are) mixed with at least one other auxiliary other than a UHC.

14. (New) The method as defined by Claim 13, said catalyst comprising iridium in the oxidation state I, in the structure of which each iridium atom corresponds to the complex form of the  $\text{Ir}(\text{L})_3\text{X}$  type wherein the symbols L and X have the definitions given in the text "Chimie Organométallique" [Organometallic Chemistry] by Didier Astruc, published in 2000 by EDP Sciences (cf. page 31 et seq.).

15. (New) The method as defined by Claim 14, said catalyst having the formula:



in which:

the symbol  $\text{R}^4$  represents either a monodentate ligand L, and in this case  $x = 2$ , or a bidentate ligand  $(\text{L})_2$  and in this case  $x = 1$ , and

the symbol  $\text{R}^5$  represents either Hal, which represents a halogen atom selected from the group consisting of chlorine, bromine and iodine atoms, and in this case  $y = 2$ , or a ligand of type LX, and in this case  $y = 1$ .

16. (New) The method as defined by Claim 15, wherein the formula (IV):

$\text{R}^4$  is a ligand comprising at least one C=C double bond and/or at least one  $\text{C}\equiv\text{C}$  triple bond, it being possible for these unsaturated bonds to be conjugated or nonconjugated, the said ligand being linear or cyclic (mono- or polycyclic), having

from 4 to 30 carbon atoms, having from 1 to 8 ethylenic and/or acetylenic sites of unsaturation and optionally comprising one or more heteroatoms, and

R<sup>5</sup>, in addition to Hal, can also represent a ligand LX derived from acetylacetone, from a  $\beta$ -ketoester, from a malonic ester or from an allyl compound.

17. (New) The method as defined by Claim 13, wherein the auxiliary is introduced into the reaction medium in the free state and in a molar ratio, with respect to the iridium metal, of at least 0.2.

18. (New) The method as defined by Claim 13, wherein the auxiliary comprises at least one compound selected from the group consisting of the UHCs (v) or mixture thereof and the concentration of catalyst is such that the iridium/silane of formula (II) molar ratio is less than or equal to  $400 \times 10^{-6}$ .

19. (New) The method as defined by Claim 13, wherein the auxiliary is selected from the group consisting of:

cyclohexanone, 2-cyclohexen-1-one, isophorone, 2-benzylidenecyclohexanone, 3-methylene-2-norbornanone, 4-hexen-3-one, 2-allylcyclohexanone, 2-oxo-1-cyclohexanepropionitrile, 2-(1-cyclohexenyl)cyclohexanone, monoglyme, ethylene glycol divinyl ether, ethyl ether, benzoquinone, phenylbenzoquinone, maleic anhydride, allyl succinic anhydride, 3-benzylidene-2,4-pentadione, phenothiazine, (methylvinyl)cyclotetrasiloxane

(vinylated D4), 4-phenyl-3-buten-2-one, 1,3-butadiene, 1,5-hexadiene, 1,3-cyclohexadiene, 1,5-cyclooctadiene (COD), 1,5,9-cyclododecatriene, divinyltetramethylsiloxane (DVTMS), norbornadiene and mixtures thereof.

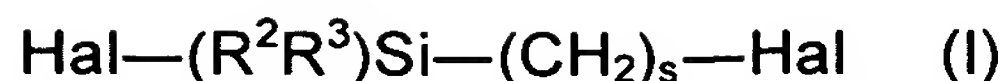
20. (New) The method as defined by Claim 13, wherein the auxiliary is a mixture (vi) comprising at least one UHC (v) and at least one ketone (i) and/or at least one ether (ii) and/or at least one quinone (iii).

21. (New) The method as defined by Claim 20, wherein the concentration of catalyst is such that the iridium/silane of formula (II) molar ratio is less than or equal to  $100 \times 10^{-6}$ .

22. (New) The method as defined by Claim 20, wherein the components of the mixture (vi), UHC/(i) and/or (ii) and/or (iii), are present in the reaction medium when the reaction is initiated.

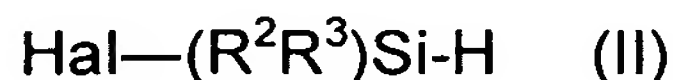
23. (New) The method as defined by Claim 13, wherein the product of formula (I) is 3-chloropropyldimethylchlorosilane, the product of formula (II) is dimethylhydrochlorosilane and the product of formula (III) is allyl chloride.

24. (New) A catalytic system for the preparation of a haloalkyldialkylhalosilane of formula (I):

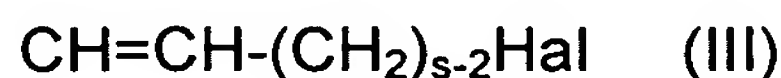


by hydrosilylation reaction of a reaction medium comprising:

a silane of formula (II):



and an alkenyl halide of formula (III):



in which formulae:

the symbol Hal represents a halogen atom selected from the group consisting of chlorine, bromine and iodine atoms,

the symbols  $\text{R}^2$  et  $\text{R}^3$ , which may be identical or different, are each a monovalent hydrocarbon radical selected from the group consisting of a linear or branched alkyl radical having from 1 to 6 carbon atoms and a phenyl radical, and

$s$  is an integer ranging from 2 to 10 inclusive, and which comprises:

(1) a hydrosilylation catalyst based on iridium in the oxidation state I, in the structure of which each iridium atom corresponds to the complex form of the  $\text{Ir}(\text{L})_3\text{X}$  type wherein the symbols L and X have the definitions given in the text "Chimie Organométallique" [Organometallic Chemistry] by Didier Astruc, published in 2000 by EDP Sciences, or having the formula:



in which:

the symbol  $R^4$  represents either a monodentate ligand L, and in this case  $\underline{x} = 2$ , or a bidentate ligand  $(L)_2$  and in this case  $\underline{x} = 1$ , and

the symbol  $R^5$  represents either Hal, Hal representing a halogen atom selected from the group consisting of chlorine, bromine and iodine atoms, and in this case  $\underline{y} = 2$ , or a ligand of type LX, and in this case  $\underline{y} = 1$ , and

(2) at least one auxiliary in the free or supported state selected from the group of compounds consisting of:

- (i) ketones,
- (ii) ethers,
- (iii) quinones,
- (iv) anhydrides,
- (v) unsaturated hydrocarbon compounds (UHC) whether aromatic and/or comprising at least one C=C double bond and/or at least one C $\equiv$ C triple bond, it being possible for these unsaturated bonds to be conjugated or nonconjugated, the said UHCs being linear or cyclic (mono- or polycyclic), having from 4 to 30 carbon atoms, having from 1 to 8 ethylenic and/or acetylenic sites of unsaturation and optionally comprising one or more heteroatoms, and
- (vi) mixtures thereof,

with the proviso that, when the auxiliary comprises one or more UHCs as defined above, then this (these) UHC(s) is (are) mixed with at least one other auxiliary other than a UHC.

25. (New) The method as defined by Claim 17, said molar ratio being at least 1.

26. (New) The method as defined by Claim 17, said molar ratio being at least 100.

27. (New) The method as defined by Claim 18, said molar ratio being less than or equal to  $200 \times 10^{-6}$ .

28. (New) The method as defined by Claim 18, said molar ratio being less than or equal to  $50 \times 10^{-6}$ .

29. (New) The method as defined by Claim 21, said molar ratio being less than or equal to  $60 \times 10^{-6}$ .

30. (New) The method as defined by Claim 21, said molar ratio ranging from  $40 \times 10^{-6}$  to  $1 \times 10^{-6}$ .

31. (New) The method as defined by Claim 20, said mixture comprising COD and cyclohexanone.